

Remarks

Claims 1-71 are pending in the present application. Claims 65-71 are withdrawn from consideration. Claim 64 is allowed. Claims 1, 2 and 17-20 are rejected. Claims 3-16 and 21-63 are objected to.

Claims 65-71 are cancelled. Applicant hereby reserves the right to present these claims in a subsequent continuing application.

New claim 72 is presented for examination. This claim replaces claim 3 and incorporates the limitations of claim 1, 2, and 3 together.

New claims 73-79 are presented for examination. New claims 73-79 depend from claim 64 which is allowed. This claims merely provides selections for the components of allowed claim 64.

Claim 5 is amended to depend from claim 72 and to remove “aliphatic acrylated” so as the antecedent basis in depending form claim 72 is corrected. Claim 5 is further amended to replace “is at least one” with “comprises an acrylated” and to correct the punctuation. Claim 64 is also amended to correct the punctuation. Claim 14 is amended to depend from claim 5 and to replace “the aliphatic acrylated oligomer in the mixture” with “the acrylated urethane oligomer.” Claims 4-13 and 15-16 are amended to depend from new claim 72. Claim 20 is amended to replace “transparent” with “opaque.” The antecedent basis for this amendment is found on p. 13, ll. 14-17 of the Specification. No new matter is added by these amendments.

1. Specification

The Examiner objected to the Specification because there was no antecedent basis for “transparent conductive layer” in claim 20. Claim 20 is amended to replace “transparent” with “opaque.” Accordingly, there is no need to amend the Specification.

2. Rejection under 35 U.S.C. §102(b)

Claim 1 is rejected under 35 U.S.C. §102(b) as being anticipated by WO96/22005 (“WO’005”) (see Etzbach et al., 5,922,481.)

Applicant respectfully traverses the Examiner’s rejection for the reasons set forth below. “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987); MPEP § 2131. “The identical invention must be shown in as complete detail as is contained in the ... claim,” and “[t]he elements must be arranged as required by the claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989); *In re Bond*, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990); M.P.E.P. § 2131. The WO’005 reference does not disclose, either expressly or inherently, each and every element claim 1.

Claim 1 includes the following limitation for the electroluminescent composition:

wherein the electroluminescent composition has the characteristic of being curable into the electroluminescent active layer when irradiated with UV light and does not contain any significant amount of volatile organic solvents that do not become incorporated in the electroluminescent active layer after curing

(Present Application, claim 1)

The WO'005 reference does not appreciate or mention any equivalent limitation. Indeed, the Example of Etzbach uses solvents in its compositions:

1.5 g of polyvinylcarbazole and 1.5 g of trimethylolpropane triacrylate, were dissolved in 200 ml of methoxypropanol. This solution was applied by means of a spin coater to a glass sheet coated with conductive ITO (indium tin oxide). This sheet was then heated at 90.degree. C. for 3 minutes on a hot plate. The layer thickness after drying was 240 nm.

The layer obtained was then exposed to a high-pressure mercury lamp (HBO) for 10 minutes. This resulted in crosslinking. The layer was then insoluble in methoxypropanol.

An emitter layer was then applied to this layer. For this purpose, a solution of 0.01 g of the compound 19 and 0.99 g of poly-vinyl cinnamate! in 30 ml of toluene was applied by spin coating, dried, and crosslinked by exposure to an HBO lamp. The layer thickness was 190 nm.

(U.S. Pat. No. 5,922,481, col. 15, ll. 36-51, emphasis added)

It is apparent that the WO'005 reference does not recognize the importance of having compositions that do not contain volatile organic compounds such as toluene and methoxypropanol (U.S. Pat. No. 5,922,481, Example.) Moreover, the WO'005 cannot anticipate claim 1 of the present invention because "each and every element as set forth" in claim 1 is not found in the WO'005 reference.

Claims 1, 2 and 17-20 are rejected under 35 U.S.C. §102(b) as being anticipated by deSouza (U.S. Pat. No. 4,684,353.)

For similar reasons as set forth above, deSouza does not anticipate claims 1, 2, and 17-20 of the present invention. Again, deSouza does not disclose an electroluminescent composition that "does not contain any significant amount of volatile organic solvents that do not become incorporated in the electroluminescent active layer after curing" as required by independent claim 1 of the present application. Specifically, deSouza states in example 2:

(a) The polyester resin (formed from polyethylene glycol and maleic acid) was dissolved in organic solvent comprising a mixture of MEK and cyclohexanone and the phosphor dispersed in this solution in a high intensity blender. The phosphor containing resin mixture (73% phosphor by weight) was applied to a 25 gauge preformed PET film to a coating thickness of 1.00 mils and dried at 200° F. Indium tin oxide was sputtered over the resin layer to obtain a coating thickness of 500-600 Å Over the indium tin oxide surface a bus bar was printed in silver ink and the underside of the PET film was printed with a solid back electrode of silver.

(deSouza, col. 7, ll. 45-56, emphasis added.)

Both MEK and cyclohexanone are volatile organic compounds. The deSouza reference does not anticipate the present invention because it lacks the limitation regarding volatile organic compounds for the electroluminescent composition.

Accordingly, since independent claim 1 is not anticipated by either the WO'005 reference or the deSouza reference, dependent claims 2 and 17-20 are also not anticipated by these references. Notice to this effect is respectfully requested in the form of a full allowance of these claims.

3. Rejection under 35 U.S.C. §103(b)

Claims 1, 2, and 17-20 are rejected under 35 U.S.C. §103(b) as being unpatentable over deSouza (U.S. Pat. No. 4,684,353.)

Applicant respectfully transverses the Examiner's rejection for the same reasons as set forth above. Specifically, deSouza does not teach an electroluminescent composition that "does not contain any significant amount of volatile organic solvents that do not become incorporated in the electroluminescent active layer after curing" as required by independent claim 1.

The Examiner has also stated that it "would have been obvious to one skilled in the art at the time of the invention to employ a transparent electrode as both conductive electrodes." Applicant respectfully disagrees. Transparent electrodes tend to be less conductive than opaque electrodes. This is obvious because electrodes become opaque as the metal content is high and the metal leads to higher conductivity. Therefore, it is not necessarily obvious that two lower conductivity electrodes may be used.

Accordingly, since independent claim 1 is patentable over the deSouza reference, dependent claims 2 and 17-20 are also patentable. Notice to this effect is respectfully requested in the form of a full allowance of these claims.

4. Claim Objections

Claims 3-16, 21-29, and 40-63 are objected to as being dependent upon a rejected claim.

Claim 3 has been replaced with new independent claim 72 which incorporates the limitation of claims 1, 2, and 3. Accordingly, new claim 72 is allowable.

Claims 4-16 are amended to depend upon new claim 72. Accordingly these claims are allowable.

Claims 21-39 and 40-63 depend from claims 1 and 2. Claims 1 and 2 have been shown to be allowable for the reasons set forth above. Accordingly these claims are allowable.

Conclusion

Applicant has made a genuine effort to respond to each of the Examiner's objections and rejections in advancing the prosecution of this case. Applicant believes that all formal and substantive requirements for patentability have been met and that this case is in condition for allowance, which action is respectfully requested. If any additional issues need to be resolved, the Examiner is invited to contact the undersigned at his earliest convenience.

Respectfully submitted,

ROY C. KROHN

By *James Proscia*

James W. Proscia

Reg. No. 47,010

Attorney/Agent for Applicant

Date: 4-8-04

BROOKS KUSHMAN P.C.
1000 Town Center, 22nd Floor
Southfield, MI 48075-1238
Phone: 248-358-4400
Fax: 248-358-3351